



**COMMISSION INTERNATIONALE DE L'ÉCLAIRAGE  
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INTERNATIONALE BELEUCHTUNGSKOMMISSION**

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**DIVISION 6**

**PHOTOBIOLOGY AND PHOTOCHEMISTRY**

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## **Minutes of the Division 6 Meeting September 3, 2005 Aix les Bains, France**

**In Attendance :**

Werner Horak

Kohtaro Kohmoto

Karl Schulmeister

David Sliney

Ann Webb

Marko Weber

*Apologies:*

Stephen Wengraitis (DS)

Jean Pierre Cesarini

Gerrit van den Beld

**1. Welcome.** Members were welcomed to the meeting by DD6.

**2. Approval of Agenda.** The agenda proposed in the August 2005 CIE Division 6 newsletter was accepted.

**3. Approval of Minutes of the Previous Division 6 Meeting.** Minutes of meeting in Vienna, September 2004, were approved.

**4. Division Director's (DD's) Report.** Webb reported that the Light and Health Symposium held just after the last Division 6 meeting in Vienna was very successful and the Proceedings are now available as a CIE publication / CD.

The new International Lighting Vocabulary (ILV, intended for July 2004) is still undergoing approval and harmonisation at various levels. Division 6 has approved their section of the vocabulary at Division level, this has been approved by the Board and a response has been sent to Board comments. Harmonisation is still required for terms given different definitions by different divisions, or where two words are used for the same definition. The vocabularies of Divisions 3, 4, and 5 are still not complete.

Webb reminded the meeting that where agreement could not be reached during harmonisation the existing ILV definition would be retained. As this is to be a joint CIE/IEC publication the whole ILV must also be approved by IERC once finalised within CIE

The meeting stressed the importance of the new ILV for the work of the Division and technical committee (TC) reports now in preparation. Webb was tasked with conveying this message to the Central Bureau (CB) with a request that the harmonisation and preparation of the ILV be completed rapidly.

Members were reminded that the new CIE webshop is operative for the purchase of publications. To gain the preferential rate for members when ordering a code is required. This should be provided by the National Committee (NC). Experience of the procedure within the meeting

showed that not all NC's are aware of their codes at the present time and this needs to be remedied.

The CB is now requesting Divisions to review their available publications and alert the CB if publications are obsolete or about to be replaced. This will alert potential purchasers to the fact that a more up to date publication is due. The Director requested that all TC chairs review publications associated with their TC, and inform the Director of anything badly outdated or to be replaced by an existing TC. When the Final TC draft begins the approval process, the CB will then be alerted. It was suggested that TC6-01 is a candidate for review or replacement.

A TC has been proposed within Division 1 that overlaps with the remit of D6. The TC title is "Effects of dynamic and stereo visual images on human health". DD1 and DD6 had discussed this TC before the Leon meeting; it was agreed that Division 1 should first approve it and put it before the Board, as their Division was meeting first in Leon, and the proposal came from their Division. The TC was approved at both levels, but with a Board recommendation that it should have strong representation from D6 within the TC and / or be a joint TC.

The meeting agreed with this condition and approved a joint TC. However, the small number of members present felt that more research was needed to identify the best D6 members to input to this TC. Dave Sliney was tasked with investigating this matter, and in the meantime potential contributors suggested were David Sliney, Bud Brainard, John O'Hagan and someone from the group of Janos Schanda. Anyone interested in the original D1 presentation associated with the TC proposal can download it from the D1 website.

The D6 website is still hosted by NIST, but requires some updating.

The roles of two of our ADD's have become confused, probably due to a typographical error after the Quadrennial meeting in San Diego.

Officially we have:

Karl Schulmeister - ADD for Photobiological Standards and Measurements

Kohtaro Kohmoto - ADD for Photobiological Standards

This should be corrected to read:

Karl Schulmeister - ADD for Photobiological Measurements and Dosimetry

Kohtaro Kohmoto - ADD for Photobiological Standards

The CIE CB will be informed of the change.

The third ADD is Jean Pierre Cesarini (Photodermatology)

**5. Secretary's Report.** Wengraitis was unable to attend but sent documents and several technical committee updates that were incorporated at the relevant points in the meeting, and the minutes.

#### **6. Editor's Report**

The Editor was absent, no report.

#### **7. Progress Reports from TCC's, and, in their absence, updates from the Secretary.**

##### **Completed and Closed TC's:**

**6-01 Actinic Effects of Optical Radiation on Man** a completed TC, should be reviewed as much of it has been replaced, or overtaken by more recent advances.

**6-03 Photo-kerato-conjunctivitis** It was also noted that this TC is now outdated. Cullen has performed the work that contradicts this report. He will be asked if would consider a Reportership to update this TC report.

##### **6-08 Guidelines for Obtaining Action Spectra.**

TCC is David Sliney. This TC met in Aix les Bains. Information has been added on techniques for obtaining action spectra from polychromatic sources, and the effects of bandwidth sampling. The latest draft will be circulated to the TC members for comment and will then begin the

approval process at Division and board levels.

**6-15 A Computerized Approach to Reflection, Transmission and Absorption Characteristics of the Human Eye** TCC is Jack Lund, who reported that efforts continue and Sliney commented that all the data for the report are available and just require some final explanation in the text.

ADD Schulmeister was tasked with assisting the chair in bringing this TC to completion.

**6-20 Phototoxicity in Domestic and Industrial Environments** The TCC, Neil Gibbs, reported that the TC would have an ad hoc meeting in Aix les Bains.

**6-21 Cataractogenesis by Low-Level Exposure to Ambient Ultraviolet Radiation** David Sliney (TCC) reported that there is a lot of new work and theories in this field. Not all types of cataract are associated with UV. Nuclear cataracts fit environmental data for heat, and animal models support this theory. Still some controversy.

**6-22 Terminology and Units for Characterizing Photosynthetically Active Radiation for Plants** Complete.

**6-23 Develop Generalized Action Spectra for Plant Responses to Wavebands from 280 to 1100 nm** The relatively new TCC (Stephan Flint) has finally received CIE documentation for TCCs. He has held discussions with several potential committee members but pressure of work has prevented further progress. The meeting suggested sending the TCC the action spectrum as represented in 6-01.

**6-24 Sunscreen and UVA** The TCC (Jean-Pierre Cesarini) announced in Vienna that he would be unable to work on this TC after December 2005, but would provide the latest draft at that time. This has not been seen and Cesarini. was unable to attend the DD6 meeting at the last minute. David Sliney offered to acquire the latest existing draft of the report.

Uli Osterwalder offered to complete the report, but as there is much activity in this field he will include information to the end of 2005 and will produce a final draft by June 1<sup>st</sup>, 2006.

Note that this TC report was intended as a precursor to TC 6-28.

**6-28 Standardization of Sunscreen Testing: Method of UV-A Sunscreen Testing** See comments on 6-24.

There has been much action on this subject in the past year. There is now a DIN standard and COLIPA are developing a compromise method of testing between the DIN and French (l'Oreal) method. There are also talks in progress between COLIPA and CTFA.

Uli Osterwalder has agreed to complete this Standard, but will revisit it when 6-24 is complete, and when current negotiations within the industry are complete.

**6-29 UV Protection and Clothing** This TC has been successful in balloting and the TCC is addressing the final comments from the Board.

**6-31 Immediate Pigment Darkening** No updates since 2004. David Sliney reported that the draft looks complete and suggested circulating the existing document to the TC, with the approval of the retiring TCC (Cesarini). If there are many comments to deal with, one of the existing TC members will be asked to deal with them.

**6-32 Action Spectrum for Photocarcinogenesis (Non-melanoma Skin Cancers)** Draft standard received BA and Division approval. Sent to NC for comments in April 2005.

**6-33 Photoimmunological Effects Mediated Through the Skin** Wengraitis is in regular contact with the TCC and the effort is moving forward.

**6-36 UV Protective Materials Used in Shading**

The TCC hopes to continue with the TC effort on completion of a major measurement campaign. The meeting suggested that the Secretary offer to circulate the existing draft amongst TC members.

**6-37 Light and Retinal Disease** A draft exists for this TC but the subject has become controversial with two key members of the TC in disagreement.

**6-39 UV Radiation in Lighted Environments** The TC met in Aix les Bains.

**6-42 Lighting Aspects for Plant Growth in Controlled Environments** The TCC reported that a group of scientists met to discuss aspects of controlled environments for plant research. The group agreed that there was a need to establish a competence center in this area. Information on the competence center would be distributed as it became available.

**6-43 UV Water Disinfection** The TC met in Vienna, 2004 when the TCC expected to circulate a draft in the near future. No news or response to queries since. ADD Schulmeister was tasked to follow this up.

**6-44 Illuminators for Treatment of Infant Hyperbilirubinemia.** No recent updates. It was suggested that the TCC may need help to complete this effort. The meeting suggested Pratesi be approached, as he had discussed this subject in Vienna in 2004. An informal approach has already received a positive response. It was suggested that the TCC be asked for any existing draft, and his approval of this move.

**6-45 Optical Radiation Hazard Measurements in the Work Space** Chair has recently received clearance to use information from a European document as source material in the report. The Secretary is in contact with him on a monthly basis.

**6-46 Standard Action Spectrum for UV Disinfection** No recent updates; Sliney stated that he had recently contacted Rettberg, and would be able to obtain an update.

**6-47 Photobiological Safety of Lamps and Lamp Systems** Completed, but needs reactivation for revision (all Standards require regular review). Rolf Bergman is aware of this need and is prepared to undertake the review.

**6-48 Typical Minimal Erythema Doses** The TC's database continues to expand, combining US and French data for different racial / ethnic groups. Korean and Polish also being investigated.

**6-49 Infrared Cataract** No recent updates. The TCC may require assistance. The meeting suggested that other TC members be asked if any of them are prepared to move forward with the report.

**6-50 Photodegradation of Pharmaceuticals** The TCC reported that efforts are on-going with a recent review of source material from CIE.

**6-51 Standardized Solar Simulator Spectral Irradiance Distribution for Sunscreen Testing** There has been much recent activity in this area. The TCC has been strongly involved in a study of the validity of action spectra with respect to the possible effects of stray light. A meeting on this subject is planned for late September in Little Rock.

**6-52 Proper Measurement of Passive UV Air Disinfection Sources** TCC reports this TC will be delayed as he is concentrating on another TC (6-59).

**6-53 Personal Dosimetry for UV Radiation** No recent updates or response to inquiries. Further efforts would be made to contact the TCC.

**6-54 Standardised Action Spectrum for Vitamin D Synthesis in Human Skin.** Final draft almost ready for circulation to TC. The TC Report is urgent as there is much interest in this field at present, and it is also important for TC 6-58.

**6-55 Light Emitting Diodes** This TC met in Aix les Bains. There has been much activity in the past

year. A revised draft was circulated in April. An intermediate meeting has been held with IEC representatives and good progress was made, and some differences in opinion noted. Items to be clarified by ICNIRP were identified. The TCC has also provided input to TC2-58.

**6-56 Infrared Warming Cabins** The TCC is concerned that there is little interest in this TC from the Health Authorities, and Industry-only interests would bias the TC. Sliney and Schulmeister offered to acquire the draft and review it in light of ICNIRP statement that covers risks, then decide whether to continue or abandon the TC.

**6-57 Standardisation of Terms and Action Spectra for Blue Light and Retinal Thermal Hazard Function** This TC met in Aix les Bains. Note the title should be “.....Thermal Hazard Function” (last word missing in Division list of TCs in prior correspondence). Secretary should ensure that the correct title is used in correspondence and on the D6 website.

**6-58 A Recommendation on Lower Limits for UV Exposure** The TC held its first meeting in Aix les Bains.

**6-59 UVC Photocarcinogenesis Risks from Germicidal Lamps** The TCC has recently taken over this TC and has been in discussion with TC members.

**8. Progress Reports from Reporters.** Osterwalder (*UV absorbing clothing additives and changes with laundering*) reported that he had been busy writing a book that will provide source material for his Reportership but otherwise there has been no action.

**9. Progress Reports of Liaisons.** IEC there has been good progress on the lamp / LED Safety Standard and work is continuing.

ICNIRP – no report

WHO – no report

ISO – ISO TC174 suggested a change of the UVA limits from 315 – 400 nm (CIE) to 315 – 380 nm, to

fit with the requirements for ophthalmological testing. CIE objected to the change of a long established definition to suit a specific purpose, suggesting that this did not prevent ophthalmic testing limits being set at 380 nm. Despite this, ISO have changed their definition of UVA to be 315 – 380 nm, though they include a note that the CIE upper wavelength limit is 400 nm.

**10. Proposals for Dissolution of TCs and Reporterships.** No TCs or Reporterships were proposed for dissolution, but there has been no known action or response from the following TCs:

6-42

6-46

6-49

6-53

6-56

Unless this situation changes, these TCs will be proposed for dissolution at the next D6 meeting.

**11. Proposals for New TCs and Reporterships.**

Don Forbes proposed a TC on “Spectral Weighting of Ultraviolet Radiation from Solar Surrogate sources”

Terms of reference: To prepare a document intended to provide health research scientists with a concise reference for estimating the risk associated with exposure to various levels of radiation from solar surrogate sources.

The first phase will investigate data related to the xenon long-arc lamp, representing both ideal and realistic operating conditions. The document will provide the following: 1) tables of irradiances; 2) tables of established weighting functions for several photobiological effects; and 3) tables and charts of photobiologically effective irradiances (derived from 1 and 2). Similarly subsequent phases will evaluate, tabulate and chart data from other solar surrogate devices of interest to investigators in research and testing laboratories. The committee will not be responsible for

developing criteria or standards for specific applications (such as sunscreen testing with “solar simulators”, which is the responsibility of TC6-51)  
TCC: Don Forbes

The meeting approved this TC proposal.

Also see DD6 Report on Joint D1 / D6 TC “Effects of dynamic and stereo visual images on human health”.

No new Reporterships were proposed, but it was suggested that it would be useful to form a reportership or otherwise update the work of 6-03, Photo-kerato-conjunctivitis.

The TC proposed in Vienna on Lighting for sufferers of Xeroderma Pigmentation was approved at Division level but due to some miscommunication and ill health the TCC and Terms of Reference have not yet been provided for Board Approval. Once the required information is provided the approval process will proceed. This action was directed for Sayre.

## **12. Future Meetings.**

Two venues were suggested for the D6 meeting in 2006:

- In conjunction with the American Society for Photobiology Meeting, July 8-12, 2006, San Juan, Puerto Rico (an invitation to join this meeting has been extended by the organiser, Frances Noonan).
- In conjunction with the Division 4 Light and Health Symposium, September 7-8, 2006, Ottawa, Canada.

The small number of attendees did not have a clear consensus on the next meeting site so all are invited to vote for your preference. Please email DD6 ([ann.webb@manchester.ac.uk](mailto:ann.webb@manchester.ac.uk)) if you have a preferred location for the next meeting within the next two weeks.

The D6 meeting in 2007 will be held in conjunction with the CIE Quadrennial in Beijing.

**14. Adjournment.** The meeting was adjourned at 1645.